

RESUME

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DR. HILLOL KANTI PAL MBBS, M.Ch (Neurosurgery)

Present Employer (Institution): : Hospital University Science Malaysia, 16150 Kubang
Kerian, Kelantan.
Department of Neurosurgery, Jabatan Neurosains, University
Sains Malaysia, 16150 Kubang Kerian, Kelantan
Malaysia.

Present Position : Associate Professor (Neurosciences) & Consultant
Neurosurgeon

Areas of interest : Spine instrumentation, Endoscopic Skull Base surgery,
Epilepsy surgery, Image Guided Neurosurgery,
Stereotactic radiosurgery.

Current designation: Associate Professor (Neurosciences)

I joined the Department of Neurosciences, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian, on 15th November 2005 as Associate Professor (Neurosciences); and currently working as Consultant Neurosurgeon. Universiti Sains Malaysia has been accorded by the Malaysian Government as the top Research University in the country. It conducts the only accredited neurosurgery training program in Malaysia. I am directly involved in the teaching of postgraduates and supervising their research protocols for the writing of thesis.

Hospital Universiti Sains Malaysia is one of the best equipped neurosurgery unit in Southeast Asia. I am currently working on Image guided surgery for skull base tumors, Expanded endonasal endoscopic skull base surgery, Epilepsy surgery and Spine instrumentation. It is one of few Stereotactic Radiosurgery (SRS) Units in Malaysia and offers SRS for skull base tumors, vascular lesions and functional neurosurgery by a team effort involving radiation oncologists, neurosurgeons and interventional radiologists.

Current Research projects:

1. Principal investigator for '*Expanded endonasal endoscopic approaches to skull base- a cadaveric study.*' This project is part of thesis for the award of M. Med (Neurosurgery) by Dr. Gee Teak Sheng. It has been passed by the Core Committee for Research (Universiti Sains Malaysia) vide reference: USM/PPSP/2007/JKP-6[6.3(7)].
2. Co-investigator in two ongoing Department projects on '*Role of neural transplant in spinal cord injury*' which involves two M Sc students. In this project we are inducing spinal cord injury using the weight-drop method. After inducing injury we plan to use stem cells cultured in the laboratory derived from Olfactory nerve and sciatic nerve in rats. Standardization of the animal model is currently under progress.
3. Co-investigator for *Vermeer study on Early Parkinson's disease* as the UPDRS rater. This study was started in December 2006. We completed recruitment of the target 5 patients in this study for the evaluation of an investigational drug for the treatment of early Parkinsonism.
4. Establishing the *animal facility for experimental endoscopic skull base surgery and spine surgery* in collaboration with the Department of Anatomy, Universiti Sains Malaysia. This project has commenced recently with the procurement of Wolf endoscopy system with 5mm 0° and 30° endoscopes. We have identified 'sheep' as the suitable animal with a comparative anatomy similar to humans.

Thesis assessment as Internal examiner for M S (Neurosurgery):

1. 'Posttraumatic epilepsy-a prospective study'. I am the designated Thesis guide for Dr. Chan Kin Hup, Tahun 3 (Neurosurgeri) vide ref. number PPSP/PG/CP3/R8-167(07) Jld.1 dated 04/10/2007.
2. 'Expanded endonasal endoscopic approach to the midline skull base.- A cadaveric morphometric study'. I am the principal investigator and designated Thesis guide for Dr. Gee, Tahun 1 (Neurosurgeri). The study has been awaiting clearance from ethics committee, after being evaluated by the Postgraduate committee.

Workshop attended

Participated in Hands-on Endoscopic Cadaveric Workshop (Intraventricular, Transsphenoidal pituitary & Skull Base) at Medical faculty and Anatomic Dissection Hall, Universiti Putra Malaysia, Malaysia from 13th to 15th of August 2007.

Undergraduate courses

I have taken regular classes (including didactic lectures, Problem based learning, tutorials and clinical bedside teaching) for the undergraduate students during the Nervous Block in 2006 and 2007.

The list of lectures taken include:

1. Surgery in movement disorder- 27-09-06; 27-09-07
2. Pathophysiology of cerebral oedema- 01-10-06; 03-10-07
3. Diagnostic approach to comatose patient- 02-10-06; 01-10-07
4. Localization of spinal cord lesion- 09-10-06

I have been designated Honorary Lecturer for B.Sc Audiology & Speech pathology to assist their undergraduate students (including didactic lectures and examination) vide ref: USMKK/PPSK(A)/82(107)Jld.III

The list of lectures taken include:

1. Cerebrovascular accidents in adults- 18-03-07

Postgraduate courses

The Department of Neurosurgery, HUSM conducts the M Med (Neurosurgery) program which is the only accredited training program for neurosurgeons in Malaysia. I am supervising the training from the second year to final year. I have been taking regular classes (including didactic lectures, clinical bedside teaching and teaching of surgical skills in the Operation Theatre) for the postgraduate students.

Our interactions with ORL colleagues has resulted in a combined Neurosurgery-ORL clinic on Wednesdays for multidisciplinary approach to skull base surgery. We are now routinely offering Extended endonasal endoscopic surgery for Pituitary disorders and Craniovertebral junction lesions.

Our interactions with other departments takes place in the form of regular

Neuropathology and Neuroradiology conferences where all the trainees of concerned departments participate.

I have participated in two CPCs for postgraduates in 2007.

Internal Examiner

In May 2007, I was the Internal Examiner for PGY-1 (Dr Rahmat) and PGY-4 (Drs. Nasser AW, Saufi Awang, Sani Sayuthi, Saiful Azli). In November 2007, I was the Internal Examiner for PGY-4 (Dr Saiful Azli). In May 2008, I was the Internal Examiner for PGY-4 (Drs. Sharon, Badryisah Idris, Kan, Nujaimin).

Experience as Specialist Neurosurgeon, Central Government Health Services, Ministry of Health & Family Welfare, Government of India.

I joined the Central Health Services on July 2nd 1993 as Specialist Neurosurgeon at Safdarjang Hospital New Delhi and was subsequently transferred to Dr Ram Manohar Lohia Hospital, New Delhi on April 5th 1995. The Department of Neurosurgery at the Dr. Ram Manohar Lohia Hospital, New Delhi is a tertiary Neurotrauma center situated in the heart of the Capital. It treats more than 4500 patients of head injury every year. The Trauma Centre of Delhi is located within its premises. It has been upgraded to a Postgraduate Institute of Medical Education and Research. The Department has five Full Time Faculty members who are trained Neurosurgeons and a resident staff of twelve. It is recognized for postgraduate training of Diplomate of National Board in Neurosurgery.

Contribution in Teaching during this period

Skull Base surgery is an upcoming branch in Neurosurgery. The rarity of these lesions coupled with late referral make them very difficult to treat. These lesions demand elaborate neuroradiological work up and there are no standard approaches for most of these advanced lesions which require multidisciplinary management. I have made fifteen edited videos of such surgical approaches which have been screened at various national and international forums. These videos have been appreciated for the technical quality and information content and are useful for practising Skull Base surgeons.

The Question Bank of 600 multiple choice questions for the Diplomate of National Board Entrance Examinations at Dr. Ram Manohar Lohia Hospital has been framed by me.

I have been publishing a quarterly journal “ Spine Care ” for dissemination of information and knowledge in the field of spinal instrumentation since 2002. It has received the appreciation of the peer group of surgeons interested in this field.

Contribution in Research

- a) I have studied the Sympathetic fibres in the parasellar cavernous sinus and found a dense plexus on the ventral aspect of the C4 segment of the internal carotid artery (ICA) which was not described earlier in literature. Its close proximity and relationship to the abducens nerve may play a major role in identification of structures during intracavernous dissections while removing these tumours.
- b) I have studied the thickness of the various layers of the ICA wall in relation to the various Fischer's segments (C1 to C6) using the Image Analyzer. The media was constant, occupying half of the wall thickness. The adventitia narrowed from one third at entry to one fourth at the bifurcation while the intima widened from one sixth to one fourth of the wall thickness correspondingly. These findings were not reported earlier. My findings demonstrate that it is safer to carry out dissections at C5 -C6 segment levels for tumour excision and interposition of venous grafts while treating cavernous sinus lesions.

Experience as Neurosurgeon , Bokaro General Hospital, Bokaro , Bihar.

During the final year of Residency, I was selected in a campus interview by the Steel Authority of India Limited, a Fortune 500 company to setup the Department of Neurosurgery at their 900 bedded hospital at Bokaro, Bihar. I joined Bokaro General Hospital on December 30th 1989 as Consultant Neurosurgeon. I took up the challenge of developing a neurosurgical services in a remote geographical area. I was given the task of designing and planning the Neurosurgical Intensive Care Unit and Neurosurgery Operation Theatre Complex. In 42 months, I took the project to completion and equipped the unit with a Hitachi CT 2000 Whole Body CT Scanner. A significant portion of my effort went to the training of the radiologists and neuro-nurses in the OT complex and the Intensive care. The Research project I worked on during this period was on 'Development of Anterior Spinal Fixator' with In-house R&D(SAIL). Patent Application No. 974/Del/91.

Background

I have done my basic training at the premier medical institution of the country i.e the All India Institute of Medical Sciences, New Delhi. I joined this apex institution as an undergraduate medical student in August 1978 and completed my Compulsory Rotating Internship in 1983. I joined the six year Neurosurgical Residency Program in January 1984. The Department of Neurosurgery at the All India Institute of Medical Sciences, New Delhi was headed by Prof. (Dr) Prakash Narian Tandon. The faculty consisted of Dr. Ajit Kumar Banerji, Dr. Ravi Bhatia, Dr Vir Singh Mehta and Dr. Ashok Kumar Mahapatra. The second year (12 months) of this program was designed for rotation to General Surgery, Paediatric Surgery and Orthopaedic Departments.

The surgical work done during this tenure according to the log book maintained is :

Head Injuries

Extradural haematoma :	10
Growing Skull fracture :	05
Contusion-haematomas :	20
Chronic subdural haematoma :	10
Cerebrospinal fluid rhinorrhoea :	05
Peripheral nerve injury repair :	04
Brachial plexus injury repair :	03

Brain Tumours

Gliomas	: 28
Meningiomas	: 14
Sellar suprasellar lesions	: 45
Orbital tumours	: 02

Posterior fossa tumours

Cerebellopontine angle lesions	: 10
Cerebellar tumours	: 05
Tentoria l meningiomas	: 02
Spinal tumour surgery	: 06
Peripheral nerve sheath tumour	: 01
Brain abscess	: 15
Syringomyelia	: 03
Craniovertebral junction anomalies	: 10

Prolapsed intervertebral disc surgery

Lumbar	: 05
Anterior cervical approach	: 04
Aneurysm surgery	: 10
Stereotactic Ventrolateral Thalamotomy	: 05
Diversiónery Shunt surgery	: 46

Research papers submitted to the Faculty of the All India Institute of Medical Sciences, New Delhi in partial fulfilment of the requirements for the degree of M. Ch. (Neurosurgery) :

a) *Acute effect of Anhydrous Glycerol on Peripheral nerve.*

Abstract: Percutaneous retrogasserian glycerol rhizotomy has shown encouraging results in the treatment of trigeminal neuralgia. An experimental study was undertaken using rat sciatic nerve model to elucidate the mechanism of action of anhydrous glycerol and to study the acute changes which develop within one week. Extraneuronal glycerol was applied in twenty adult Wistar rats. Group of five animals were sacrificed at day 1,3,5 and 7 respectively. The sciatic nerve of opposite limb in the same animals were used as controls. The nerves were examined with light and electron microscopy including morphometric study to assess type of fibres affected. The specific pattern of involvement of larger and medium sized myelinated fibres with relative preservation of unmyelinated fibres was noted.

b) *Visual prognosis in operated cases of Pituitary adenomas*

Abstract: The major indications for surgical intervention in pituitary adenomas include visual deterioration and/or endocrine dysfunctions. A significant proportion of patients presenting to the All India Institute of Medical Sciences, New Delhi have gross visual impairment due to large tumours with suprasellar extension (Banerji '86). Some of these cases show marked improvement in their visual status in the early postoperative period and continue to show improvement at follow up. Visual evoked cortical responses (V E C R) have been used along with visual acuity and a semi-quantitative method to estimate visual field loss to study the visual prognosis in 29 cases of operated pituitary adenomas. The VECR changes paralleled the changes in visual acuity and the visual fields but in no case were they of predictive value.

c) *Primary tumours of vertebral body*

Abstract: Primary tumours of the vertebral column are uncommon. In the period between 1967 and 1987 twenty-nine patients with these tumours presented to the Department of Neurosurgery, All India Institute of Medical Sciences, New Delhi, with varying degrees of neurological deficits. All these patients were operated upon for relief of cord compression. This paper examines the presentation, investigations and management of these cases in relation to the tumour site and histology. The changing trend in investigation of these tumours is commented upon.

Publications

- 1 **Acute effect of anhydrous glycerol on peripheral nerve - An experimental study.** Pal Hillol Kanti , Dhinda Amit K., Roy Subimal & Banerji A K. **British Journal of Neurosurgery**, 1989, 3 (4), 463-470.
- 2 **Cystic Medulloblastoma. Case Report.** Mahapatra A K, Pal H K & Sarkar C. **Neuroradiology**. 1989, 31, 369-370.
- 3 **Primary tumours of vertebral body.** Pal H K, Banerji A K & Dhinda A K. **Neurology India**. 1990, 38, 427-441.
- 4 **Traumatic Pseudomeningocele at craniovertebral junction following stab injury of neck.** Pal Hillol Kanti , Deb Sumit , Mishra S & Bhatta G B. **Injury**, 1998, 29 (2) : 142 - 143.
- 5 **Iatrogenic Brain Abscess.** H K Pal & S Deb. **Neurology India**. 1997, Vol 45, 198-205.
- 6 **Phenylpropanolamine -induced intraventricular hemorrhage** Prasad A, Bhoi K K, Bala K, Anand K S & Pal H K. **Neurology India** 2003, 51 (1); 117-118.
- 7 **Desmoplastic infantile ganglioglioma with calcification.** Bhardwaj M, Sharma A, Pal HK: **Neuropathology** 2006, 26(4):318 -22.
- 8 **Lymphocytic hypophysitis presenting as pituitary apoplexy in a male.** Bhardwaj M, Sharma A, Pal HK: **Neurology India** 2005 ;53: 363-364.
- 9 **Granulomatous hypophysitis.** Bhardwaj M, Sharma A, Pal HK. **Neurology India** 2005;53:364-365.
10. **Craniofacial surgery in Hospital USM.** Zamzuri I, Ghani ARI, Saufi A, Hillol Kanti Pal, Jafri MA: **The Malaysian Journal of Medical Sciences** 2006, 13(1);59.
11. **A transcranial approach for resection of olfactory neuroblastoma: A case report.** Nasser AW, Hillol Kanti Pal, Jafri MA, Hasnan J, Win Mar@Salmah J, Khairi A: **The Malaysian Journal of Medical Sciences** 2006, 13(1);150.
12. **Complex fractures involving the upper cervical spine: A case report.** Badriyah I, Abdul Rahman IG, Saufi A, Jafri MA, Hillol Kanti Pal: **The Malaysian Journal of Medical Sciences** 2006, 13(1);153.
13. **Primary xanthoma with necrobiosis of the dura: A case report.** Badriyah I, Nasser AW, Zamzuri I, Hillol Kanti Pal, Jafri MA, Shafie A, Roshan Perveen, Nor Hayati O: **The Malaysian Journal of Medical Sciences** 2006, 13(1);154.

Book published

1. Title: *Atlas of Craniovertebral Junction surgery- Problems & Solutions*. Author: Hillol Kanti Pal.

ISBN 978-983-861-351-4

Penerbit Universiti Sains Malaysia vide reference number PUSM/PBB(SAINS).B-1135 Dated 24th November 2006 is publishing this book under 'Academic Imprint'. It is expected to be released by July 2008.

Foreword by Sir R S Maurice-Williams, this single author 400 pages atlas with numerous illustrations covers the entire spectrum of surgical procedures performed at the Craniovertebral Junction. It describes the contemporary approaches to the individual pathologies encountered in this region. The myriad lesions encountered at this unusual location have been categorized into six sections. This atlas represents the summary of the experience gained by the author through detailed anatomical work, designing of implants as well as performing over 150 operations in the region. The case-study format and the detailed description in a simple language highlight the peculiarity of the problem the surgeon is likely to encounter in a similar clinical situation. Numerous radiological images of the individual cases discussed with extensive labeling have been used to elaborate the lesion under discussion. The various surgical alternatives available in a clinical situation are discussed with actual operative photographs. The outcome of each individual case is discussed to complete the 'learning process' of the reader. The large number of operative details shown is a very valuable and unique source of technical data and allows a careful evaluation of the approaches to the region based on a precise understanding of the underlying anatomy and its biomechanics.

Review of 'Atlas of Craniovertebral Junction Surgery – Problems & Solutions'

The reviewer Prof. K. Ganapathy Ph.D is a Past President of the Neurological Society of India (2006). He has been Secretary of the Asian Australasian Society of Neurological Surgery from 1999 to 2007. A former examiner and inspector for the National Board of Examinations (Government of India).

It was indeed a pleasure to review this excellent publication. Out of the box, innovative thinking is often described as unconventional. "Unconventional" approaches often yield rich dividends. Publications on skull base surgery are often treatises or atlases catering to the skull base surgeon who has access to state of the art armamentarium. Dr Hillol Kanti Pal's magnum opus is truly a compendium - a hybrid which has the best of everything. Written from the perspective of an initially self trained skull base surgeon, working in a developing country, this book is a true story of the trials and tribulations encountered in mastering one of the most difficult of sub specialities in neurosurgery. The author effectively conveys the age old dictum of Leksell – that a "fool with a tool is still a fool" Every word, every image, every picture has a story to tell. A critical review brings out the author's passionate involvement in the management of every case. Most gratifying was the message loud and clear "treat the patient as a whole, not the disease or the shadow or imaging studies" The variety of cases and their successful management, many times with limited infrastructure, clearly reveal that a thorough knowledge of the clinical

features of the patient, the results of the investigations, knowledge of the natural history in each specific case is as important as surgical skill. The plain x rays, CT and MRI scans, CT Angiography, intra operative C arm imaging, and operative photographs have considerable meaning, as the reader is able to relate to them meaningfully. Description of surgical anatomy including osseous relationships is followed by a section on “Suggested Reading”. The history and physical findings, of every single patient, for whom these investigations were done make up a fascinating story. The clinical follow up and post operative imaging studies ensure that the reader can even judge the results of the treatment strategy applied. The different treatment options including conservative treatment and the complications of treatment are also discussed. The six sections in this book cover the entire gamut of the craniovertebral junction.

Chapter in Textbook

1. Chapter on “**Head Injury**” in **Textbook of Medicine** by Vasani R S & Seshadri Sudha. Orient Longman 1998, Pg 507 - 510.

Editor of Journal

Spine Care is quarterly journal published by Spine Care Foundation (2003-2005) for dissemination of information in the field of spinal instrumentation. The focus is on the Indian perspective involved. The issues published so far have discussed :

1. Cervical spine Instrumentation;
2. Traumatic lesions of the Craniovertebral Junction.
3. Management of multilevel cervical myelopathy

Citation In

- 1 In “**Operative Neurosurgical Techniques**”- Indications, Methods and Results. Third Edition, 995 Ed. Henry H Schmidek and William H Sweet. Published by W.B. Saunders Co. in **Chapter: Retrogasserian Glycerol rhizolysis in trigeminal neuralgia**. Ref No. 53, Pg 1533.
- 2 In “**Craniovertebral Junction Anomalies - The Indian Experience**”1997, Editors Vijendra K Jain, Sanjay Behari Short Communication : Transoral and Anterior Retropharyngeal Approach for CV junction pathology. Pg 141.
- 3 ‘*New ways to end chronic Back pain*’ . Quoted by **Reader’s digest** in its cover story of January 2006 issue (Pg 102)

4 *'We require awareness on spine surgery and spine instrumentation'*. Quoted by **Express Healthcare Management**; issue dated 1-15 September 2005.

List of abstracts

- 1 Mathematical model for assessing fatalities in Head Injury. Bhatti G B , **Pal H K** & Kapoor N. Neurology India (Supplementary) 1995, Vol 43, pg 163.
- 2 Fischer's scheme for intracavernous carotid artery-A morphometric study. **Pal Hillol Kanti**, Dhinda Amit K, Basu Sumita. Neurology India , 1998, Vol 46, Suppl No. 1, pg 57.
- 3 Oligodendroglioma Metastases to Parotid gland. **Pal Hillol Kanti** , Gupta L N, Srivastava A K & Premsagar I C. Neurology India. 1998 Vol 46 , Suppl No. 1, pg 111.
- 4 Unusual behaviour of cauda equina tumour. Srivastava A K, Premsagar, **Pal H K** & Gupta L N. Neurology India 1998, Vol 46, Suppl No. 1, pg 129.
- 5 Acute effect of extraneural glycerol application on rat sciatic nerve. **Pal H K**, Dhinda A K, Roy S & Banerji A K. Abstract No. 210300 Book of Abstracts. Ninth International Congress of Neurosurgeons. 1989, Oct.8 to 13th. New Delhi.
- 5 Spinal dysraphism- Beyond the first decade of life. Munshi S C, **Pal H K**, Basu S & Zarabi V. Annual conference of the Indian Society of Paediatrics, Jan 1992
- 6 Transoral and Anterior Retropharyngeal approach for Craniovertebral Junction Pathology Initial study of 20 cases. Navalkha R K & **Pal H K**. The First National Workshop/ CME on Craniovertebral Junction Anomalies Lucknow, 1997.
- 7 Characterization of 'membrane' in chronic subdural haematoma-A morphometric study. Srivastava A K, **Pal H K** Basu S & Dhinda A K. 7th National Neurotrauma Conference at Indore, 21-23rd August, 1998.
- 8 Paracondylar approach to Right C1 -C2 Dumbbell Neurofibroma. **Pal Hillol Kanti**, Deb S, Srivastava A K & Gupta L N. Skull Base Conference , Vigyan Bhavan New Delhi. September 25-27th, 1998.
- 9 Midfacial Degloving approach in Paranasal sinus lesions extending to Anterior Skull Base. Mathur N N & **Pal H K**. Skull Base Conference, Vigyan Bhavan, New Delhi, September 25-27th, 1998.
- 10 Transbasal approach to Ethmoidosphenoidal carcinoma. **Pal H K** , Gupta L N & Mathur N N Skull Base Conference, Vigyan Bhavan, New Delhi, September 25-27th, 1998.
- 11 Intracavernous Carotid Artery-A morphometric study. **Pal H K**, Dhinda A K & Basu S. Skull Base Conference, Vigyan Bhavan, New Delhi, September 25-27th, 1998.
- 12 Transmaxillary- Transbasal Approach to Giant Nasopharyngeal Angiofibroma with intracranial extension. Gupta LN, Pal H K, Nagesh S & Mathur NN. Skull Base Conference, Vigyan Bhavan, New Delhi, September 25-27th, 1998.

- 13 Excision of Giant Nasopharyngeal Angiofibromas. Mathur NN & Pal H K. 51st Annual Conference of Otolaryngologists Association of India, Guwahati, Jan 7th 1999. (Video session)

- 14 Apoptosis in Human Traumatic Brain Injury (TBI). **Pal H K**, Dhinda A K, Srivastava A K & Gupta LN. 8th National Neurotrauma Conference , Nagpur 20-22nd, August 1999. (NSI Award session)
- 15 Microsurgical anatomy of Sympathetic fibres running inside the cavernous sinus. **Pal H K**, Roy TS & Dhinda A K. The 5th Asian Oceanic International Conference of Skull Base Surgery, Mumbai , 12-15th November

1999.

16 Anatomy of the Sympathetic fibres inside the Cavernous sinus. Roy TS, **Pal H K** & Dhinda A K. 47th Annual Conference of Anatomical Society of India, Jhansi, 27-29th December 1999.

17 Lateral Facial Translocation approach in tumours of Nasopharynx extending into the Pterygopalatine fossa and middle cranial fossa. Mathur N N & **Pal H K**. 52nd Annual Conference of the Otolaryngologists Association of India, 7-9th Jan 2000.

18 Giant traumatic pseudoaneurysm of Right Vertebral artery. Srivastava A K, **Pal H K** & Gupta L N. The 5th Asian Oceanian International Congress on Skull Base Surgery, Mumbai 12-15th November, 1999.

19 Total Ophthalmoplegia following penetrating injury neck. **Pal H K**, Srivastava A K & Gupta L N. The 5th Asian Oceanian International Congress on Skull Base Surgery, Mumbai 15th November, 1999.

20 Surgical considerations in Craniovertebral junction Tuberculosis. **Pal H K**, Gupta LN Platform presentation at the 52nd Annual Conference of Neurological Society of India, Chandigarh.

21 Is Laminoplasty the answer to cervical spondylotic myelopathy? Gupta LN, **Pal HK** Platform presentation at the 53rd Annual Conference of Neurological Society of India, Indore.

22. Expanded endonasal endoscopic approaches to skull base- a new animal model. **Hillol Kanti Pal**, Saufi Awang, Shamim Ahmad Khan, Zul Izhar, Jafri Malin Abdullah. Universiti Sains Malaysia, Department of Neurosciences, Kubang Kerian, Kelantan, Malaysia. For Neurocon 2007 Agra: the 56th Annual Conference of Neurological Society of India, 14-17 December 2007.

23. Cognitive sequelae of epilepsy surgery. **Hillol Kanti Pal**, Maria Socorro Pieter, Sani Sayuthi, John Tharakan, Jafri Malin Abdullah. Universiti Sains Malaysia, Department of Neurosciences, Kubang Kerian, Kelantan, Malaysia. For Neurocon 2007 Agra: the 56th Annual Conference of Neurological Society of India, 14-17 December 2007.

24. Malignant tumours of the skull base. Laxmi Narayan Gupta, **Hillol Kanti Pal**, Jafri Malin Abdullah. Dr. Ram Manohar Lohia Hospital, New Delhi & Universiti Sains Malaysia, Department of Neurosciences, Kubang Kerian, Kelantan, Malaysia. For Neurocon 2007 Agra: the 56th Annual Conference of Neurological Society of India, 14-17 December 2007.

TEACHING AIDS (EDITED EDUCATIONAL VIDEO FILMS)

- 1 “THE BRAIN ” Script, commentary & Editing. (25 mins) Produced at Jamia Mass Communication Research Centre for UGC INSAT Programmes by H Malhotra. (1986)
- 2 “ LASERS IN NEUROSURGERY “Script, commentary & Editing (64 seconds) Produced by H Malhotra for Doordarshan Morning News.(1986)
- 3 “ PARACONDYLAR APPROACH TO RIGHT C1-C2 DUMBBELL NEUROFIBROMA” Script, commentary & Editing (4 mins) Presented at Delhi Neurological Association meeting in August 1998 & Skull Base Con’98 at Vigya n Bhavan , New Delhi, September 1998.
- 4 “ TRANSBASAL APPROACH TO ETHMOIDOSPHEOIDAL CARCINOMA” Script, commentary & editing (4 mins) Presented at Delhi Neurological Association meeting August 1998 & Skull Base Con’98 at Vigyan Bhavan, New Delhi , September 1998.
- 5 “ TRANSMAXILLARY-TRANSBASAL APPROACH TO GIANT NASOPHARYNGEAL ANGIOFIBROMA WITH INTRACRANIAL EXTENSION” Script, commentary & Editing (4 mins) Presented at Delhi Neurological Association meeting August 1998 & Skull Base Con’98 at Vigyan Bhavan, New Delhi, September 1998.
- 6 “ EXCISION OF GIANT NASOPHARYNGEAL ANGIOFIBROMAS”Script, commentary & Editing (8 mins) Presented at the Video Award session at 51st Annual Conference of Otolaryngologist Association of India ,Guwahati 7-9th January 1999.
- 7 “ GIANT TRAUMATIC PSEUDOANEURYSM OF RIGHT VERTEBRAL ARTERY” Script, commentary & Editing (3 mins) Presented at Delhi Neurological Association meeting in September 1999. Presented at The 5th Asian Oceanian International Congress on Skull Base Surgery, Mumbai,12-15th November 1999
- 8 “ SUPRASCAPULAR NERVE ENTRAPMENT BY GANGLIONIC CYST” Script, commentary & Editing (3 mins) Presented at Delhi Neurological Association meeting , September 1999.
- 9 “ CERVICAL DUMBBELL NEUROFIBROMAS-DO THEY TEND TO GRAVITATE TO THE THORACIC INLET ?”Script, commentary & Editing. (3 mins) Presented at Delhi Neurological Association meeting, September 1999.
- 10 “ LATERAL FACIAL TRANSLOCATION APPROACH” Script, commentary & Editing. (3mins) Presented at the Delhi Neurological Association meeting , September 1999 and at the 52nd Annual Conference of the Otolaryngologist Association of India. Jan 7-9th 2000.
- 11 “ ENDOSCOPIC THORACIC SYMPATHECTOMY FOR HYPERHYDROSIS” Script, commentary and editing (2 mins) Presented at Delhi Neurological Association meeting, September 1999.

- 12 “ DIRECT BRAIN REVASCULARIZATION IN SKULL BASE LESIONS ” Script, commentary & Editing. (3mins) Presented at the Delhi Neurological Association meeting , November 2000 and at the Annual Conference of Skull Base Surgery at SGPGI Lucknow August 2000.
- 13 “ A CASE OF A MOTORCYCLE ACCIDENT” Presented at the Delhi Neurological Association meeting , November 2004.
- 14 “ A CASE OF LOW BACKACHE” Presented at the Delhi Neurological Association meeting , November 2004.
- 15 “ DOUBLE DOOR EXPANSIVE LAMINOPLASTY” Script, commentary & Editing . (3mins) Presented at the 53rd Annual Conference of the Neurological Society of India. Dec 17th 2004.

Highlights of activities at the individual level :

- 1 Development of Skull Base Surgery as a sub speciality in collaboration with ENT department of Lady Hardinge Medical College, New Delhi.
- 2 Expert on panel discussion on “ Are Five Star Hospitals needed in India ?” Alongwith Dr. Naresh Trehan of Escorts, Delhi & Dr. Reddy Vice Chairman of Indraprastha Apollo, Delhi. Produced by Home TV for its live programme entitled “On Air”.
- 3 Expert on Panel Discussion on *HEAD INJURY* for All India Radio Rural Health Education Program. Produced by Mrs. G Navalkha.
- 4 Collaborating with Shanta Malhotra Medical Foundation, New Delhi for making Medical Video films for educational purposes. (Ref : Annexure C)
- 5 Senior faculty on DePuy Acromed Spine Workshop at National Neurotrauma Conference at CMC Ludhiana August 2004.
- 6 Senior Guest faculty on DePuy Acromed Spine Workshop at National Neurotrauma Conference at ASSICON 2005 (January 21st , 2005) at Bangalore.
- 7 Senior Guest faculty in Spine Surgery and Instrumentation at Ethicon Institute of Surgical Education Kirti Nagar, New Delhi.

Papers In Communication

1. Neuronavigation-assisted Endoscopic Endonasal Odontoidectomy for Basilar invagination: A Technical Case Report. Bafriyah Idris, Chan Kin Hup, Wan Shah Jihan, Shamim Ahmed Khan, Hillol Kanti Pal. Submitted online to Malaysian Journal of Medicine December 2007.
2. In- vivo endothelial kinetics study in gliomas. Dhinda A K, Pal H K, Sarkar C & Roy S. Journal of Neuro-oncology. Ref : C-97 / 265.
3. Effect of undernutrition on regeneration of nerve following crush injury: An experimental study. Dhinda A K & Pal H K. Journal of Neurotrauma. Ref : 1125 / 97

Other relevant information

1. I passed the PLAB (Professional Linguistic Assessment Board) examination conducted by the General Medical Council in November 1986 at Glasgow.
2. I was the School Captain at Kendriya Vidyalaya, Ramgarh Cantt, Hazaribagh Bihar in 1977. Represented the region at national level Kendriya Vidyalaya Sangathan Sports Meet in Volley Ball in 1976.

Referees:

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